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ABSTRACT

This study examined the influence of participation in school-based professional study group activities on both general and personal teaching efficacy. It also examined teachers' perceptions of changes that occurred in their teaching performance as a result of participation in the study group sessions. Participants were elementary teachers who voluntarily established their own study group, engaging in professional discourse in their monthly discussions. Data collection included written questionnaires from and personal interviews with study group participants and nonparticipants. Results indicate that general teaching efficacy was clearly different from personal teaching efficacy. Differences in general teaching efficacy between the two groups at the end of the year suggest that the collaboration and purposeful discussions in which study group members engaged had a positive effect on their general teaching efficacy as compared to non-study group teachers. The study group experience influenced participants' classroom behaviors. Overall, teachers who engaged in ongoing professional study group activities were more likely to gain or sustain a sense of security and confidence that, in turn, encouraged them to transfer the content of their study group sessions into classroom practices. (Contains 33 references.) (SM)

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THE EFFECTS ON TEACHER EFFICACY OF SCHOOL BASED COLLABORATIVE ACTIVITIES STRUCTURED AS PROFESSIONAL STUDY GROUPS

by

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RESEARCH SUMMARY

The following research questions guided this study: (a) What are the consequences of participation in school-based study group activities on general teacher efficacy? (2) What are the consequences of participation in school-based professional study group activities on personal teaching efficacy? (3) What are the consequences of participation in school based professional study group activities on teachers' professional growth as perceived by participants? (4) Is there a difference in general teaching efficacy between those teachers who participate in professional study group activities compared to those teachers who do not participate? and (5) Is there a difference in personal teaching efficacy between those teachers who participate in professional study group activities compared to those teachers who do not participate?

This study examined the influence of participation in school-based professional study group activities on both general teaching efficacy and personal teaching efficacy. It was the intent of this study to analyze the staff development opportunities provided to teachers in the form of study group sessions and the effects on general and personal teaching efficacy of participation in these study group sessions. This study also examined teachers' perceptions of the changes that occurred in their teaching performance as a result of their participation in these study group sessions. A third line of inquiry provided data regarding the differences in levels of teacher efficacy of those who participated in the study group sessions compared to those who chose not to participate.

The research and literature that was reviewed for this study provided a chain of reasoning that supports the notion that professional development opportunities that promote collaboration, shared decision making, problem solving, and discourse on instructional issues have a positive influence on general and personal teaching efficacy which, in turn, ultimately influences student achievement (Bandura, 1993; Coladarci & Breton, 1997; Guskey, 1987; Moore & Esselman, 1994, 1992; Tracz & Gibson 1986). Study groups, defined as a group of 5 or 6 members usually from the same school that take responsibility for their own professional growth by engaging in collaborative discourse on chosen topics (Johnston & Wilder, 1992), are currently a popular means of providing teachers with collaborative and on-going professional development experiences. In general, these study groups can potentially help teachers feel a greater sense of control over their professional lives and increase their sense of teacher efficacy (Tschannen-Moran et al., 1998).

Research Methods Used for this Study

A group of elementary teachers who had decided to voluntarily establish their own study group agreed to participate in this study. This group had no previous experience with the study group model as a professional development activity.

The results of this study were divided into five sections that corresponded to each research question. Qualitative data were gathered from written questionnaires and personal interviews to address the research questions that related to the consequences of the professional study group

activities on personal and general teaching efficacy. The responses from the questionnaires and interviews were transcribed and categorized into three main categories that reflected the teachers' sense of general teaching efficacy, personal teaching efficacy, and perceptions about professional growth. Quantitative data were gathered from The Teacher Efficacy Scale (Gibson & Dembo, 1984) to make statistical comparisons of the personal and general teaching efficacy of all instructional staff members in this school, both study group participants and non-participants.

Summary of Results

The results of this study will be discussed in five parts that correspond to each research question. Each research question will be restated and conclusions relating to each question will be discussed in terms of their relationship to earlier research and the contributions of this study to the area of teacher efficacy and professional study groups.

Question 1: What are the consequences of participation in school-based study group activities on general teaching efficacy? For the purpose of this analysis, general teaching efficacy (GTE) is defined as the teacher's expectation of a student's academic performance given the student's family background, socioeconomic status, school conditions, or other characteristics that cannot be altered by the teacher (Gibson & Dembo, 1984). My questionnaires, interviews, and surveys did not specifically indicate that study group participants changed their thinking regarding the relationship between environment and student performance; however, study group participants did agree that the relationships formed between colleagues facilitated more effective collaboration about certain students and their academic needs. In turn, they indicated that this type of sharing gave them a more positive perspective on those students who typically struggle due to apparent environmental causes.

While research that isolates GTE is somewhat limited, there is evidence that GTE is maintained and can be strengthened by encouraging teachers to analyze specific aspects of their own teaching and the relationship to student performance (Dembo & Gibson, 1984; Woolfolk & Hoy, 1990). I believe that GTE is a very powerful force that can diminish a teacher's instructional efforts if he or she does not engage in professional dialogue that has the potential to strengthen his or her confidence in the classroom. The professional study group sessions promoted a collegial atmosphere that encouraged problem solving related to specific students. These conversations helped study group participants look beyond the apparent environmental variables that seemed to be impacting student performance and encouraged the study group participant to look for other alternatives and teaching strategies that might prove helpful to certain students.

The quantitative data gathered for this study represents a very limited sample. However, it is worth noting that the fall to spring changes in mean score from The Teacher Efficacy Scale for the study group participants (fall: $M = 2.58$; spring $M = 2.52$), while statistically insignificant (z-value = .11), do indicate that the study group participants in this study began the year with a strong sense of GTE. That suggests that the minimal change expressed during interviews and questionnaires could be explained by the apparent sense of optimism that teachers felt toward their students at the beginning of the year. This is also not surprising in light of the demographics of the study site. This particular school has a large population of students who tend to be successful learners and come from homes that value education. The majority of students at this school do not seem to be challenged by environmental influences that would

negatively influence their learning. Over time, this characteristic could certainly account for the high levels of GTE among the teaching staff.

Question 2: What are the consequences of participation in school-based professional study group activities on personal teaching efficacy? In this study, personal teaching efficacy (PTE) is defined as the individual teacher's belief that he or she has the skills and abilities to bring about student learning (Gibson & Dembo, 1984; Woolfolk & Hoy, 1990). The qualitative data collected that relates to this area of my study focuses on the teachers' perceptions of their individual effectiveness in the classroom and the changes that occurred as a result of their study group experience. Responses from study group participants indicated that they believed that changes that may have occurred in their teaching style or use of instructional strategies were subtle but powerful. They indicated the following changes in their teaching behavior:

1. Discussions of Mosaic of Thought, a teacher-to-teacher text on teaching reading comprehension in a reader's workshop classroom, and recreational reading followed by book talks enabled teachers to make the connection between the theory and content of Mosaic of Thought and classroom instruction. Strategies were modeled and practiced during study group sessions which, in turn, gave study group participants a stronger understanding and the confidence to use the same strategies during their classroom literature discussions.

2. Study group participants reported that their interactive experiences with professional reading and recreational reading helped them gain a stronger and clearer sense of themselves as readers. As a result, study group participants felt that they developed a stronger insight into the students as readers.

3. Study group participants believed that the listening to and sharing with peers which occurred during the sessions seemed to help them listen more critically to their students. They saw themselves as a more interactive listener with students which helped them assess their students' levels of understanding more effectively.

4. Study group participants noted that the study group sessions encouraged subtle changes in instructional planning and decision making. They found themselves more likely to select instructional materials that were not only instructionally appropriate but also reflected the students' interests. Study group participants noted that they gained a keener sense of the importance of addressing students' tastes and interests along with their instructional needs.

5. Study group participants reported that their participation in the study group required them to take a risk and place themselves in a situation that was not familiar and seemed somewhat threatening at first. Realizing the benefits of their own risk-taking behavior, they noted that they were more likely to promote risk-taking behavior among their students. They believed that they were setting higher expectations for their students and encouraging students to take greater learning risks while they provided the necessary support.

The quantitative data provided from the fall and spring responses on The Teacher Efficacy Scale indicated that the study group participants began and ended the year with very high levels of PTE (fall: $M = 1.94$; spring: $M = 1.87$). Any change between the differences in the mean scores was insignificant (z-value = .18). The high level of PTE of this group may account for limited changes in instructional practice noted by the participants. The group began the year with a strong belief in their own capacity to impact student achievement. Changes that did occur seemed to result from connecting their confidence and prior knowledge to ideas and information that evolved during study group sessions. While the data does not indicate any significant change in PTE, it does provide evidence that PTE was maintained throughout the year.

Changes in PTE or the teachers' sense of their effectiveness in the classroom as a result of their study group experiences provides positive support suggesting that teachers meet regularly in small instructional support groups to examine research on teaching and learning as a vehicle for change. This present study also illustrates the value of providing a safe environment in which teachers can discuss their challenges and successes and learn collaboratively. Study group participants' sense of personal teaching efficacy was enhanced as they began to expect themselves to make modifications in their instructional program to help students learn.

Question 3: What are the consequences of participation in school based professional study group activities on teachers' professional growth as perceived by participants? This question attempts to examine study group participants' perceptions of the value of the study group experience as a professional development activity. The literature reviewed for this study provided strong evidence for providing teachers with professional development opportunities that are collaborative, allow for participant ownership, are tailored to the participants, and addressed school based needs ((Fenstermacher & Berliner, 1985; Fullan, 1985; Guskey, 1995; Ryan, 1987; Smylie, 1988; Sparks, 1983).

This present study has used both qualitative and quantitative data to focus specifically on the value of study group participation as it relates to teacher efficacy; however, it is my belief that any professional development activity should also be evaluated based on the participants' perceptions of its worth and how the experience influences behaviors in the classroom. Participants' responses that related to this question are summarized in three categories.

The first category relates to how the study group participants saw themselves as learners and how they reflected on the sessions as learning experiences. As a result of participation in the professional study groups, the study group participants viewed themselves as learners and, as such, reported that they could relate more effectively to their students' roles as learners. It appears that when the study group participants placed themselves in the role of "learner", they engaged in experiences that enabled them to feel greater empathy toward their young learners.

The study group participants' experiences as readers were also reported to create a stronger bond between teacher and student in the classroom. The study group participants acknowledged that they gained a keener appreciation for reading in general and tried harder to communicate their sense of appreciation and enthusiasm to their students.

It appears that through the study group experience, teachers engaged in learning activities that resulted in both professional and personal growth. As a result of these experiences, teachers seemed to believe that they had a greater influence over their students' perceptions and feelings about reading. In short, study group participants reported that their behavior as a reader and learner influenced their students' behaviors as readers and learners and achieving the desired learning outcomes.

The second category that relates to professional growth discusses the study group participants' reflections on the study group process as a professional development model. Their feedback provides strong evidence of the effectiveness of this model as a means of encouraging professional growth. Their comments are summarized as follows:

1. The format provided quality time to interact with colleagues.
2. They valued the opportunity to establish stronger relationships among study group participants which increased the level of respect and credibility that each held for the other.
3. The diversity of the study group broadened the overall understanding of the content as each study group participant applied their prior knowledge to the content of the readings.

4. Comments from study group participants provided connections and ideas that individuals would not have thought of independently.

5. The teambuilding and collegiality that evolved strengthened the level of understanding and increased the learning that occurred.

6. The shared expectations and commitment to the process increased the level of accountability to the process of professional development.

The data reported in this area of the study strongly supported the research that has noted the value of collaborative and collegial work relationships to the professional development process (Bandura, 1993; Coladarci & Breton, 1997; Rosenholtz, 1991; Smylie, 1988). Sparks's (1988) study noted that teachers who met regularly in small groups to examine research on teaching and learning gained the confidence to try new things and set higher expectations for their performance in the classroom. Sparks also reported that the study group provided a safe environment for teachers to discuss their challenges and successes and to learn together. This parallels the findings from this present study and further emphasizes the power of collaboration and collegiality for individual and collective professional growth.

The third group of responses was categorized based on evidence that study group participants were able to transfer the content of study group discussions to classroom practice. Study group participants reported that in general, the study group process helped them make more meaningful connections between the content of the reading and student learning. They felt that the discussions provided a deeper understanding of and appreciation for students as readers and for the reading and writing process. Study group participants noted that the discussions linked theory to practice which provided a clearer understanding of the instructional purposes to the varied learning activities in which they engaged their students. Study group participants also reported that they developed a greater sense of appreciation for their role as a model for their students. It was noted that the participants realized that developing recreational readers was more effectively facilitated when teachers were able to share their experiences as a recreational reader. This last point provides a powerful illustration of the value of the study group experience when teachers are able to transfer their experiences into the classroom.

Question 4: Is there a difference in general teaching efficacy between those teachers who participate in professional study group activities compared to those teachers who do not participate? This research question, along with Question 5 was included in this present study to gain insight into factors that may have influenced each teacher's decision to join or not join the study group. This question also directed inquiry that provided comparative data regarding changes in general teaching efficacy that may have occurred in the study group participants and in the non-study group participants.

The only data that support this question came from The Teachers Efficacy Scale (TES). Five questions on the TES relate to general teaching efficacy. A mean score between 1.0 and 3.4 indicates a high level of general teaching efficacy with 1.0 being the highest obtainable level. This survey was completed in the fall and again in the spring of the same school year by all professional staff members at the study site. Those who chose not to participate in the study group sessions showed a mean of 2.62 (SD = .84) compared to a mean of 2.58 (SD = .86) of the study group participants on the fall survey. A z-value of .03 indicates that any difference between the two groups is not significant. Therefore, based on these data, there is no evidence to report that general teaching efficacy was a factor in choosing to join the study group.

However, it is interesting to note the difference between the two groups in general

teaching efficacy on the spring survey. Non-study group participants showed a mean of 3.84 (SD = .94) which places their collective level of GTE in the low range. The study group participants showed a mean of 2.52 (SD = 1.07) which shows that the level of GTE changed very little between fall and spring. A *z*-value of 2.87 indicates that the difference between the two groups on the spring survey was significant. When the mean scores for the non-study group participants were compared, a *z*-value of 4.69 was calculated which indicated that there was a significant difference in the level of GTE between the fall and spring survey.

It appears from these data that participation in the study group may have helped sustain the GTE of the group members. In the meantime, the level of GTE of those teachers who did not participate with the group seemed to diminish significantly. This seems to provide additional support to Chester and Beaudin (1996) and Smylie (1988) who agreed that collaboration is not only an important link to professional growth; it also carries a positive effect on teacher efficacy of which general teacher efficacy is a large part. This study is limited by a small research sample; therefore, there is not conclusive evidence that adequately addresses this research question. However, the evidence does support the need to explore this area further.

Question 5: Is there a difference in personal teaching efficacy between those teachers who participate in professional study group activities compared to those teachers who do not participate? This last research question was included in this present study to gain insight into factors that may have influenced each teacher's decision to join or not join the study group. This question also directed inquiry that provided comparative data regarding changes in personal teaching efficacy that may have occurred in the study group participants and in the non-study group participants.

As with Question 4, the only data that support this question came from The Teacher Efficacy Scale (TES). Five questions on the TES relate to personal teaching efficacy. A mean score between 1.0 and 3.4 indicates a high level of personal teaching efficacy with 1.0 being the highest obtainable level. This survey was completed in the fall and again in the spring of the same school year by all professional staff members at the study site. It's interesting to note here that all teachers who took this survey showed a very high level of PTE on both the fall and spring measure. Those who chose not to participate in the study group sessions showed a mean of 1.88 (SD = .75) compared to a mean of 1.94 (SD = .88) of the study group participants on the fall survey. A *z*-value of .14 indicates that any difference between the two groups is not significant. Therefore, based on these data, there is not enough evidence to provide any evidence indicating that personal teaching efficacy was a factor in choosing to join the study group.

Both study group participants and non-study group participants appeared to maintain a high level of PTE throughout the course of the school year. Again, there was very little difference between the two groups in this area. Non-study group participants showed a mean of 1.81 (SD = .60). The study group participants showed a mean of 1.87 (SD = .46) which shows that the level of PTE changed very little between fall and spring. A *z*-value of .14 indicates that the difference between the two groups on the spring survey was not significant (see Table 7).

These analyses do not provide any statistically significant support to conclude that there may be a difference in the PTE between study group and non-study group participants. From the results of the survey, it appears that the instructional staff in this school is highly confident in their individual and collective ability to influence student learning. It's possible that this high level of confidence or personal teaching efficacy enhanced the effectiveness of the study group but it is not possible to conclude statistically that there was a difference in the PTE of study or

non-study group members either prior to or after the study group sessions.

Limitations of this Study

There are two significant areas of limitations that have been identified and warrant discussion. The first is the sample size used in this present study and the manner in which the sample was selected. The study group consisted of only seven members. There is no question that the limited sample greatly diminishes the power of both the qualitative and quantitative data collected for this study. It is not possible to make any broad generalizations relative to the results of this study based on the sample studied.

It's also important to note that the sample was not a true random sample. The study group participants were asked to participate in this study and willingly accepted. It should also be noted that these teachers joined the study group as willing volunteers. The act of volunteering, in and of itself, is contrary to the process of random sampling and, furthermore, may to some extent be an indication of existing high levels of teacher efficacy. Since the teachers were not required to participate, it was necessary to work within this design limit. A true random sample could have been selected by identifying a larger number of known study groups and then randomly sampling one or more of these groups.

The second major limitation relates to the ceiling effect in measuring teacher efficacy. There was the possibility that participants may likely begin the year with high levels of teacher efficacy. If teachers did, in fact, begin the year with high levels of teacher efficacy, then there would be minimal room for growth. This was, in fact, the case. However, it should be noted that while this study was anticipating a positive effect from the treatment, there could just as easily been a decline in teacher efficacy which would have been reported very clearly from the survey results.

I reference this to note that while there appeared to be a ceiling effect due to the high levels of GTE and PTE among members of both groups; when the GTE and PTE are combined, there is an interesting pattern in the data. The high level of teacher efficacy seems to have been sustained among study group participants as there was minimal change in the mean score (fall: M = 2.36 to spring: M = 2.16). A z-value of .87 indicates that this is not a significant change. The mean scores for teacher efficacy of the non-study group participants show a different pattern. There appears to be a decline in the level of teacher efficacy among non-study group participants (fall: M = 2.32; spring: M = 2.95). A z-value of 2.63 indicates that this is a significant change. Although both groups continued to show high levels of teacher efficacy throughout the school year, it could be concluded that participation in the study group helped to sustain teacher efficacy.

In addition, when changes in mean scores between the study group participants and non-study group participants for teacher efficacy are compared there is another pattern that is worthy of discussing. The teacher efficacy of the two groups as measured on the fall survey appear to be very close (study group participants: M = 2.36; non-study group participants; M = 2.32). A z-value of .17 indicates that this is not a significant difference. However, on the spring survey the results are quite different. Study group participants show a mean score of 2.16; non-study group participants show a mean score of 2.95. A z-value of 3.04 indicates that this a significant difference. In general, I believe that these statistical differences indicate that participation in the study group provided the collegial support and professional development that maintained the

study group participants high levels of teacher efficacy.

Both the study group and non-study group members began the year with high levels of teacher efficacy with particularly high levels of personal teaching efficacy. Although this ceiling effect diminished the power of the quantitative data, the qualitative data that were collected provided this study with a vivid description of the consequences of participation in the professional study groups on general and personal teaching efficacy.

Discussion

The results of this study, while limited in scope, do support the line of reasoning that guided this study. My purpose for this study was to examine the link between teacher efficacy and participation in collaborative professional development activities in the form of a study group. This study reinforced earlier research by Rosenholtz (1991) who suggested that the implementation of programs and the willingness to change can be influenced by the level of collaboration that exists within a school or among a subgroup in the school. In addition, this present study also supported Bandura's (1977, 1997) notion that as teachers interact and learn from each other, there is a tendency to recognize individual contributions to the group. Bandura also noted that teacher efficacy and performance tends to increase when teachers have opportunities to participate in collective goal setting and sustained professional interactions. Chester and Beaudin (1996) and Smylie (1988) also agreed that collaboration is not only an important link to professional growth and effective staff development; it has also shown to have positive effects on teacher efficacy.

These data illustrate two key findings. First, the data support the independence of the two dimensions of teacher efficacy which has been well documented in the literature (Ashton, Buhr & Crocker, 1984; Berman & McLaughlin, 1977; Gibson & Dembo, 1984; Hoy & Woolfolk, 1993; Tschannen-Moran et al., 1998; Woolfolk & Hoy, 1990). Woolfolk and Hoy (1990) stated that "general teaching efficacy is clearly different from personal teaching efficacy; moreover, factors that nurture personal efficacy seem likely to have limited effects on general teaching efficacy and vice versa" (p. 368).

Secondly, the differences in general teaching efficacy between the two groups at the end of the year provide evidence that the collaboration and purposeful discussions in which study group members engaged appeared to have a positive effect on their general teaching efficacy as compared to the non-study group participants. Guskey and Passaro (1994) described GTE as an external dimension that relates to teachers' perceptions of elements that impact the classroom or individual students that are beyond the teacher's influence. There was an obvious difference in these perceptions between the two groups in this study. The GTE of the study group participants was apparently sustained throughout the year. The sustained GTE of the study group members seems to underscore the benefits of participation in a collaborative and on-going learning network. It also reinforces the notion that isolation and lack of collegial support can make it difficult for teachers to sustain a strong sense of efficacy (Coladarci & Breton, 1997; Hipp, 1996).

Another important finding that emerged from this study and warrants discussion is the apparent influence of the professional study group experience on the participants' classroom behaviors. The goal of any staff development activity should be driven by the need to empower teachers with the knowledge and skills necessary to provide a learning environment that advances student achievement. Once teachers have been provided with new instructional skills

and strategies, they need to believe that they can effect change in their classroom that will promote student achievement. Unless each teacher feels confident in his or her ability to influence student learning or has a strong sense of their personal teaching efficacy, the return on the staff development activity will be limited.

This study provided evidence that teachers who engage in on-going professional study group activities were likely to gain or sustain a sense of security and confidence that, in turn, encouraged these teachers to transfer the content of their study group sessions into classroom practices. Through their monthly discussions, they engaged in professional discourse that seemed to provide a deeper understanding of theory and practice. There was also an indication from the study group participants that their discussions strengthened their metacognitive awareness of themselves as readers which was transferred to their students as readers. The fact that the study group participants believed that they had gained a deeper understanding of their students as learners makes a powerful statement linking this study group model to its influence on both personal and general teaching efficacy.

Implications/Recommendations

The link between teacher efficacy and student achievement is well established in the literature. As well, the primary focus of professional development activities is typically student achievement. Consequently, this study tried to link teacher efficacy and professional development to show that the quality of the professional development activity is enhanced when one of its inherent goals is to improve or sustain teacher efficacy.

School systems are discovering that improving student achievement means providing staff development opportunities for teachers that encourage ongoing professional development in a supportive, collegial school environment. These collegial partnerships can encourage the staff to evolve into a learning community that regularly comes together as a unit to learn, make decisions, problem solve, and work creatively (Hord, 1997). The notion of the school as a learning community has recently gained notice as more and more schools look for ways to deliver quality staff development to its members and to encourage teachers to become life-long learners. Consequently, educators are looking at professional study groups as a powerful tool for building an on-going collegial learning network among school based staff members.

As the popularity of participating in professional study groups increases, it is important that we look for ways to determine the effectiveness of this method of staff development. Ultimately, the effectiveness of any staff development activity should be evaluated in terms of the impact on student achievement. Future studies that address professional study groups as well as other forms of professional development should measure the success of the experience(s) by the change(s) in student achievement. However, it's also important that the conditions that contribute to student success be included in the planning and implementation of the professional activities. Using this line of reasoning, this study attempted to provide data that would contribute to the body of research that links teacher efficacy and professional study groups.

While I acknowledged the limitations of this study earlier, I believe that the results do provide sound evidence of the power and potential of professional study groups as a means of effecting change in the classroom. If, in fact, participation in such a group has a positive influence on teacher efficacy, then it's likely that the benefits of study group participation will sustain an atmosphere that supports innovative instructional practices, continuous school

improvement, and a culture of academic success.

There is need for caution at this point. Study groups should not be organized simply for the sake of having study groups; this is a disservice to the process, the school, and the staff. It's important to note that study groups are a means to end, not an end in and of themselves. The desired end of the professional study group is positive change in student learning/achievement and the learning environment. When increased student success is the vision and guiding principle, individuals and study groups are motivated, work harder, and take responsibility for the successful implementation of the required processes and procedures. "What is happening differently in the classroom and what will the impact on student achievement be as a result of study group activities?" should be the driving question that guides study group participants through the process.

This study contributes encouraging findings to that body of literature that links teacher efficacy and staff development through professional study groups. However, the findings also suggest a need to examine this line of inquiry further. A logical next step is to replicate this study with a much larger sample. There are many schools that have one or more study groups that meet on a regular basis. It would not be difficult to find a sampling of groups that represent more diverse clusters of teachers. This next step should also include a stronger connection to student achievement.

As I've indicated, professional study groups are a valid form of staff development and, as such, should be subject to the same conditions of evaluation that are typically used to evaluate other forms of staff development. In addition, study groups, as well as all other methods of staff development, should be evaluated based on student achievement.

In conclusion, it has been noted that more efficacious teachers show a preference for collaborative work relationships (Coladarci & Breton, 1997) and are more likely to adopt change associated with staff development activities (Fritz et al., 1995; Gusky, 1981; Smylie, 1988). It was further noted that collaborative networks promote both the collective and individual efficacy of its members (Hord, 1997). This suggests that collaboration and efficacy are interdependent. When the two constructs are inherent among members within the school setting, a quality learning community is supported and perpetuated. It's critical to the academic achievement of students and the continuous improvement of schools that all members of the educational community promote collegial learning environments that sustain high levels of teacher efficacy and empower teachers to take responsibility for their own learning as well as for the learning of their students. As a result, this symbiotic relationship between efficacy and collaboration will engage teachers in meaningful professional discourse that will ultimately promote student achievement.

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